Data Steward: Guardian of Data Quality in Procurement

The Data Steward is a role in data management responsible for the quality, consistency and maintenance of defined data populations. In procurement and supply chain management, they typically look after master data such as supplier, material and part master data as well as procurement and compliance data. In doing so, they bridge the gap between IT, business departments and senior management. Without sound data quality, many digitalisation and automation initiatives in the procurement environment fail.

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Key facts at a glance

01 The Data Steward is functionally responsible for data quality within a defined data domain, such as supplier or material master data.

02 They are not to be equated with the Data Owner: the Owner bears overall responsibility, while the Steward handles maintenance and quality operationally.

03 Core tasks include data maintenance, enrichment, quality control, resolution of data conflicts and further development of data standards.

04 High data quality is a prerequisite for functioning processes such as e-sourcing, source-to-pay (S2P) or supplier evaluation.

05 Typical metrics are data quality indicators such as completeness, accuracy and timeliness of master data.

06 The role can be organised as a functional role, part-time role or dedicated position within a data governance framework.

Definition: Data Steward

A Data Steward is the person functionally responsible for the quality, definition and maintenance of a clearly delineated data population within a company. They implement data policies, resolve inconsistencies and ensure that data remains reliable and usable.

Distinction from Data Owner and Data Custodian

In the classic three-role model, the Data Owner bears the highest level of responsibility for a data domain, usually at management level. The Data Steward operates below them and looks after definitions, rules and day-to-day quality assurance. The Data Custodian, often based in IT, manages technical aspects such as storage, access permissions and backups. In medium-sized companies, these roles are frequently combined in one person, which can come at the expense of the control function.

Importance for technical procurement

In procurement, the quality of master data determines the efficiency of almost all processes: from demand identification through tendering to ordering and order processing. Duplicated material numbers, missing supplier identifiers or outdated price data lead to incorrect orders, extra effort and poor decisions. The Data Steward ensures that e-sourcing platforms, catalogue systems and ERP systems operate on a clean data foundation.

Tasks and areas of responsibility of a Data Steward

The remit of a Data Steward ranges from operational data maintenance to the further development of data standards. They typically work on a project basis and across processes with procurement, logistics, quality management, IT and controlling.

Data maintenance and quality control

The core of day-to-day business includes the creation, amendment and qualification of records as well as regular checks for errors and inconsistencies. The Steward defines mandatory fields, validation rules and tagging conventions, such as standard designations or commodity group codes. When new supplier or material master records are created, they often act as a four-eyes control instance. They also monitor that changes such as price adjustments, sales bans or address changes are entered into the system promptly and correctly.

Data standards and governance

The Data Steward develops and documents data standards, naming conventions and metadata definitions. They train business departments in applying the rules and prevent local workarounds from undermining data quality. Where requirements conflict, for example when procurement and sales need different customer or supplier views, they moderate the resolution. In established organisations, they report regularly to a data governance board or the Data Owner.

Support for procurement processes

Many procurement processes stand or fall with the data foundation: tenders in e-sourcing require consistent article and specification data, the ABC analysis needs clean value and quantity data, and supplier network management presupposes well-maintained supplier master data. The Data Steward prepares data for analyses, for example for negotiation techniques or for assessing economies of scale

in consolidated purchasing. Compliance data, such as for the Supply Chain Due Diligence Act, is also increasingly falling within their area of responsibility.

Key KPIs for the work of a Data Steward

The impact of a Data Steward can be measured well using data quality metrics. These KPIs should be collected regularly and automatically so that point-in-time measurements translate into improvement measures.

Data quality metrics

The four classic dimensions are completeness, accuracy, consistency and timeliness. Completeness measures, for example, the proportion of supplier master records with complete mandatory fields, accuracy the error rate in samples. Consistency checks whether the same information is identical across different systems, such as material designations in the ERP and the e-sourcing tool. Timeliness captures how old critical fields such as certificates or price data are.

Process and steering metrics

Alongside pure quality metrics, process metrics have become established in practice. These include the processing time for change requests, the number of automated validations per period or the proportion of new records requiring subsequent correction. The proportion of purchase orders with erroneous master data is also a practical metric, as it directly quantifies the damage. These KPIs are well suited to making the role visible to management.

Risks and controls surrounding the role

Without clear organisation and controls, the Data Steward often remains a token role. At the same time, centralising data responsibility creates dependencies and risks.

Typical pitfalls

Common problems are: the role is assigned to IT and loses its functional connection, the Steward has no authority to issue directives to business departments, or resources for ongoing maintenance are lacking. Another risk is the dominance of individual departments in data definition, for example when procurement restructures commodity groups without consultation, thereby breaking logistics or finance processes. Individual actions by staff without documentation also jeopardise traceability.

Controls and organisational measures

Four controls have proven effective in practice: a written role and responsibility matrix, a documented change process with a four-eyes principle, automated quality reports with fixed thresholds, and regular sampling by an instance independent of the Steward. For critical data such as certificates, compliance attributes or sales bans, a tiered approval process with defined escalation should exist. In the event of staff absences, a cover arrangement must take effect.

Current developments: AI, compliance and data platforms

The role of the Data Steward is changing as a result of automation and regulatory requirements. Modern tools support data quality but cannot replace functional responsibility.

AI-supported data qualification

Artificial intelligence and machine learning are increasingly being used for deduplication, classification of material data and enrichment from external sources. In practice, algorithms typically provide suggestions, while the Data Steward retains functional approval. This shifts their focus from manual maintenance to rule definition, sample checks and exception handling. It is important that the decision logic of the tools remains traceable and documented.

Regulatory requirements as a driver

Laws such as the Supply Chain Due Diligence Act and sustainability reporting increase the pressure for reliable supplier and product data. Data on emission values, for example for the Life Cycle Assessment (LCA), or on labour and human rights risks in the supply chain must be systematically captured and kept up to date. The Data Steward thus also becomes a building block of the compliance organisation. Companies should check which proof obligations apply in individual cases and how data management must be designed accordingly.

Integration into source-to-pay and the platform economy

With the spread of integrated source-to-pay (S2P) platforms and B2B marketplaces, the question of data standards across company boundaries comes into focus. The Data Steward must ensure that internal master data is compatible with external catalogues, classification systems and supplier networks. In practice, contradictions between internal and external data models cost time and cause errors in ordering and order processing. Early alignment with platform standards significantly reduces this effort.

Typical metrics

Metric	Typical value
Master data completeness	> 98% *Proportion of records with all mandatory fields completed, typical guideline value*
Master data accuracy	> 97% *Proportion of error-free records in samples*
Timeliness of critical fields	< 12 months *Maximum age of certificates or price data*

Purchase orders with data errors	< 1% *Proportion of order lines with erroneous master data*
Change request processing time	< 5 working days *Common target figure in practice, dependent on approval levels*

Practical example

A medium-sized mechanical engineering company with around 400 employees discovered, during the introduction of an e-sourcing tool, that roughly one third of its material master data contained duplicates or incomplete mandatory fields. Tenders had to be manually reworked repeatedly, and the ABC analysis delivered distorted results. The company then appointed a Data Steward in procurement, supported by a defined change process.

- Deduplication and classification of material master data with defined mandatory field logic
- Four-eyes principle for the creation of new supplier and material master records
- Monthly automated data quality report with thresholds for completeness and timeliness
- Training for procurement and logistics on naming conventions and the change process

Conclusion

In technical procurement, the Data Steward is not a nice-to-have but a key role for reliable procurement processes. They secure the data quality on which e-sourcing, purchasing, supplier evaluation and compliance requirements depend. Clear responsibilities, sufficient resources and measurable quality metrics are decisive for success. Companies that fill the role in earnest quickly reap faster processes and more robust decisions in practice. Anyone planning digitalisation initiatives in procurement should therefore factor data responsibility in from the outset.

Frequently asked questions

? What does a Data Steward do?

A Data Steward is functionally responsible for the quality, consistency and maintenance of a defined data population, for example supplier or material master data. They define data standards, review records, resolve conflicts between departments and train users. In procurement, they ensure that systems such as ERP or e-sourcing operate on a reliable data foundation.

? What is the difference between a Data Steward and a Data Owner?

The Data Owner holds overarching, often senior management-level responsibility for a data domain and decides on policies and approvals. The Data Steward implements these requirements operationally, maintains the data, monitors quality and serves as the first point of contact for functional questions. In smaller companies, both roles are often performed by one person.

? Which KPIs does a Data Steward measure?

Typical metrics are completeness, accuracy, consistency and timeliness of master data. In addition, process metrics such as the processing time for change requests or the proportion of purchase orders with erroneous master data are used. These KPIs should be collected automatically and on a regular basis.

? What prerequisites does a Data Steward need in procurement?

Important requirements are expertise in procurement processes and master data logic, an understanding of system landscapes such as ERP and e-sourcing, and strong communication skills for cross-departmental exchange. They should also have the authority to enforce data rules and be granted sufficient time resources. Without authority to issue directives or backing from management, the role often remains ineffective.

? What does a Data Steward cost a company?

It depends on the organisation: in practice, the role is often managed part-time by procurement or master data staff, but increasingly it is also being established as a dedicated position. Costs vary considerably depending on company size and data complexity. A rough guide: the effort required to maintain large master data populations is often estimated at several person-days per month.

? How do you become a Data Steward?

There is no single standard career path. Data Stewards often come from procurement, IT or data management and qualify through further training in data management or data quality methods. In practice, process understanding, system knowledge and the ability to translate functional requirements into data standards matter more than formal certificates.

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